PATENT

INSTITUT FRANÇAIS DU PETROLE

MODELLING METHOD ALLOWING TO PREDICT AS A FUNCTION OF TIME THE DETAILED COMPOSITION OF FLUIDS PRODUCED BY AN UNDERGROUND RESERVOIR UNDER PRODUCTION

Inventor : Claire BARROUX

ABSTRACT

- Method using « Black Oil » type modelling for predicting, as a function of time, the detailed composition of fluids produced by an underground reservoir under production, combined with a delumping stage allowing detailed thermodynamic representation of the reservoir fluids.

- The input data entered for the model are the thermodynamic parameters of the fluids such as viscosity, volume factor, density, gas-oil dissolution ratio, etc. (in form of charts, and/or by correlation, as a function of the pressure, of the temperature if it varies) and, if need be, an additional parameter keeping a memory of the composition of the gas such as, for example, the density of the gas), as well as data relative to the variations, as a function of the same « abscissas », of the phase parameters required for delumping, without the latter being used during the « Black Oil » simulation of the flows.

- Application : predictive profiles of the detailed composition of hydrocarbons produced by a reservoir for example.